

022704

17698 U.S. PTO

PTO/SB/05 (01-04)

Approved for use through 07/31/2006. OMB 0651-0032

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UTILITY  
PATENT APPLICATION  
TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	P1574
First Inventor	Moon-Hee Sung
Title	Surface Expression Method of . . . Synthetase
Express Mail Label No.	ER621641978US

## APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

## ADDRESS TO:

Mail Stop Patent Application  
Commissioner for Patents  
P.O. Box 1450  
Alexandria VA 22313-1450

1. ☒ Fee Transmittal Form (e.g., PTO/SB/17)  
(Submit an original and a duplicate for fee processing)
2. ☒ Applicant claims small entity status.  
See 37 CFR 1.27.
3. ☒ Specification [Total Pages 28]  
(preferred arrangement set forth below)
- Descriptive title of the invention
  - Cross Reference to Related Applications
  - Statement Regarding Fed sponsored R & D
  - Reference to sequence listing, a table, or a computer program listing appendix
  - Background of the Invention
  - Brief Summary of the Invention
  - Brief Description of the Drawings (if filed)
  - Detailed Description
  - Claim(s)
  - Abstract of the Disclosure
4. ☒ Informal Drawing(s) (35 U.S.C. 113) [Total Sheets 15]
5. Oath or Declaration [Total Sheets 3]
- a. ☒ Newly executed (original or copy)
- b. ☐ Copy from a prior application (37 CFR 1.63(d))  
(for continuation/divisional with Box 18 completed)
- i. ☐ DELETION OF INVENTOR(S)  
Signed statement attached deleting inventor(s)  
name in the prior application, see 37 CFR  
1.63(d)(2) and 1.33(b).
6. ☒ Application Data Sheet. See 37 CFR 1.76

7. ☐ CD-ROM or CD-R in duplicate, large table or  
Computer Program (Appendix)
8. Nucleotide and/or Amino Acid Sequence Submission  
(if applicable, all necessary)
- a. ☒ Computer Readable Form (CRF)
- b. Specification Sequence Listing on:
- i. ☐ CD-ROM or CD-R (2 copies); or
- ii. ☒ Paper
- c. ☒ Statements verifying identity of above copies

## ACCOMPANYING APPLICATION PARTS

9. ☒ Assignment Papers (cover sheet & document(s))
10. ☐ 37 CFR 3.73(b) Statement [X] Power of Attorney  
(when there is an assignee)
11. ☐ English Translation Document (if applicable)
12. ☒ Information Disclosure [X] Copies of IDS  
Statement (IDS)/PTO-1449 Citations
13. ☐ Preliminary Amendment
14. ☒ Return Receipt Postcard (MPEP 503)  
(Should be specifically itemized)
15. ☐ Certified Copy of Priority Document(s)  
(if foreign priority is claimed)
16. ☐ Nonpublication Request under 35 U.S.C. 122  
(b)(2)(B)(i). Applicant must attach form PTO/SB/35  
or its equivalent.
17. ☒ Other: USPTO Credit Card Payment Form  
Two Deposit Form of Biological Material

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: .....

Prior application information:

Examiner

Art Unit:

For CONTINUATION OR DIVISIONAL APPS only; The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

## 19. CORRESPONDENCE ADDRESS

☒ Customer Number: 24,394 OR ☐ Correspondence address below

Name	LaRiviere, Grubman & Payne, LLP				
Address	P.O. Box 3140				
City	Monterey	State	California	Zip Code	93942
Country	USA	Telephone	(831) 649-8800	Fax	(831) 649-8835

Name (Print/Type)	James Christopher Schroeder	Registration No. (Attorney/Agent)	48,686
Signature	<i>James Christopher Schroeder</i>	Date	2/27/04

This collection of information is required by 37 CFR 1.53(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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17497 U.S. PTO  
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022704

17698  
U.S. PTO**FEE TRANSMITTAL**  
**for FY 2004**

Effective 10/01/2003. Patent fees are subject to annual revision.

☒ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 443.00

**Complete if Known**

Application Number	Filed Herewith
Filing Date	Filed Herewith
First Named Inventor	Moon-Hee Sung
Examiner Name	Unassigned
Art Unit	Unassigned
Attorney Docket No.	P1574

**METHOD OF PAYMENT (check all that apply)**☐ Check ☒ Credit card ☐ Money Order ☐ Other ☐ None☐ Deposit Account:Deposit  
Account  
Number  
Deposit  
Account  
Name

The Director is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Credit any overpayments☐ Charge any additional fee(s) or any underpayment of fee(s)☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.**FEE CALCULATION****1. BASIC FILING FEE**

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	770	2001	385	Utility filing fee	385
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	
SUBTOTAL (1)					(\$ 385.00

**2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE**

Total Claims 22 -20\*\* = 2 X 9 = 18

Independent Claims 3 -3\*\* = 0 X  =

Multiple Dependent  X  =

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1202	18	2202	9	Claims in excess of 20	
1201	86	2201	43	Independent claims in excess of 3	
1203	290	2203	145	Multiple dependent claim, if not paid	
1204	86	2204	43	** Reissue independent claims over original patent	
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent	
SUBTOTAL (2)					(\$ 18.00

\*\*or number previously paid, if greater; For Reissues, see above

**FEE CALCULATION (continued)****3. ADDITIONAL FEES**

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for ex parte reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	420	2252	210	Extension for reply within second month	
1253	950	2253	475	Extension for reply within third month	
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing a brief in support of an appeal	
1403	290	2403	145	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,330	2453	665	Petition to revive - unintentional	
1501	1,330	2501	665	Utility issue fee (or reissue)	
1502	480	2502	240	Design issue fee	
1503	640	2503	320	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	40
1809	770	2809	385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	770	2810	385	For each additional invention to be examined (37 CFR 1.129(b))	
1801	770	2801	385	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify)

\*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ 40.00

**SUBMITTED BY**

Name (Print/Type)

James Christopher Schroeder

Registration No.  
(Attorney/Agent)

48,686

(Complete (if applicable))

Telephone (831) 649-8800

Signature

Date 02/27/04

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Express Mail" mailing label number: ER621641978US

Date of Deposit: February 27, 2004

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to: Mail Stop Patent Applications, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Typed or Printed Name of Person Mailing Paper or Fee: Tessie A. Angeles

Signature: 

PATENT  
Docket No. P1574

**IN THE  
UNITED STATES PATENT AND TRADEMARK OFFICE**

APPLICANTS: MOON-HEE SUNG  
SEUNG-PYO HONG  
JONG-SU LEE  
CHANG-MIN JUNG  
KYUNG-SOO HAHM  
DONG-GUN LEE  
YOON KYUNG PARK  
CHUL-JOONG KIM  
HA-RYOUNG POO

SERIAL NO.: FILED HEREWITH EXAMINER: UNASSIGNED

FILED: FILED HEREWITH ART UNIT: UNASSIGNED

FOR: SURFACE EXPRESSION METHOD OF PEPTIDES P5 AND ANAL3  
USING THE GENE ENCODING POLY-GAMMA-GLUTAMATE  
SYNTHETASE

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**MAIL STOP PATENT APPLICATIONS  
COMMISSIONER FOR PATENTS  
P.O. BOX 1450  
ALEXANDRIA, VA 22313-1450**

**TRANSMITTAL LETTER**

Dear Sir:

In connection with the above-referenced matter, transmitted herewith are the following:

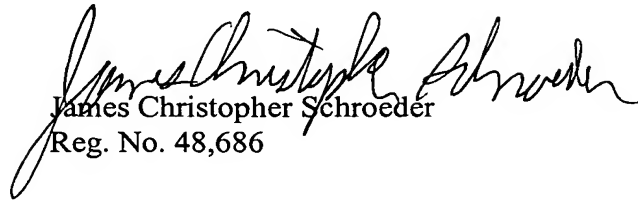
1. Utility Patent Application Transmittal (1 page);
2. Fee Transmittal FY 2004 (1 page);
3. Application Data Sheet (5 pages);

4. Specification (24 pages); Claims (3 pages); and Abstract (1 page);
5. Informal Drawings (15 sheets, 15 figures);
6. Sequence Listing in paper format (3 sheets, 9 sequences);
7. Sequence Listing in Computer Readable Format (1 diskette);
8. Statement Verifying identity of Sequence Listings in both formats (1 page);
9. Deposit Form of Biological Material (2 pages);
10. Declaration and Power of Attorney (3 pages);
11. Recordation Form Cover Sheet (2 pages);
12. Assignment Agreement (2 pages);
13. Information Disclosure Statement (2 pages);
14. Information Disclosure Statement by Applicant Form (2 pages);
15. Reference No. 1 - Enterocins L50A and L50B, Two Novel Bacteriocins from *Enterococcus faecium* L50, are Related to Staphylococcal Hemolysins (8 pages);
16. Reference No. 2 - Peptides from Frog Skin (11 pages);
17. Reference No. 3 -  $\beta$ -sheet Antibiotic peptides as Potential Dental Therapeutics (12 pages);
18. Reference No. 4 - Antibacterial Peptides: Key Components Needed in Immunity (3 pages);
19. Reference No. 5 - Peptide Antibiotics and Their Role in Innate Immunity (33 pages);
20. Reference No. 6 - Antibacterial and Antimalarial Properties of Peptides that are Cecropin-Melittin Hybrids (4 pages);
21. Reference No. 7 - Antibacterial Peptides Designed as Analogs or Hybrids of Cecropins and Melittin (8 pages);
22. Reference No. 8 - Antibacterial Peptide from *H. pylori* (2 pages);
23. Reference No. 9 - Presentation of Two Epitopes of the preS2 Region of Hepatitis B Virus on Live Recombinant Bacteria (7 pages);
24. Reference No. 10 - Outer membrane PhoE Protein of *Escherichia coli* as a Carrier for Foreign Antigenic Determinants: Immunogenicity of Epitopes of Foot-and-Mouth Disease virus (7 pages);

25. Reference No. 11 - Selection of Antibody Ligands from a Large Library of Oligopeptides Expressed on a Multivalent Exposition Vector (10 pages);
26. Reference No. 12 - Targeting Recombinant Antibodies to the Surface of *Escherichia coli*: Fusion to a Peptidoglycan Associated Lipoprotein (4 pages);
27. Reference No. 13 - Transport and Anchoring of  $\beta$ -lactamase to the External Surface of *Escherichia coli* (5 pages);
28. Reference No. 14 - Type 1 Fimbriae of *Escherichia coli* as Carriers of heterologous Antigenic Sequences (10 pages);
29. Reference No. 15 - Surface Display of *Zymomonas mobilis* levansucrase by Using the Ice-nucleation Protein of *Pseudomonas syringae* (5 pages);
30. Reference No. 16 - Expression of Carboxymethylcellulase on the Surface of *Escherichia coli* Using *Pseudomonas syringae* Ice Nucleation Protein (7 pages);
31. Reference No. 17 - Surface-displayed Viral Antigens on *Salmonella* Carrier Vaccine (4 pages);
32. Reference No. 18 - The Normally Periplasmic Enzyme  $\beta$ -lactamase is Specifically and Efficiently Translocated Through the *Escherichia coli* Outer Membrane When it is Fused to the Cell-surface Enzyme Pullulanase (9 pages);
33. Reference No. 19 - Extracellular Transport of Cholera Toxin B Subunit Using *Neisseria* IgA Protease  $\beta$ -domain: Conformation-dependent Outer Membrane Translocation (9 pages);
34. Reference No. 20 - Korean Patent Application No. 10-2000-0078615 (15 pages);
35. Reference No. 21 - Korean Patent Application No. 10-2001-0057837 (16 pages);
36. Reference No. 22 - WO 03/014360 A1 (122 pages);
37. U.S. Patent and Trademark Office Credit Card Payment Form in the amount of \$443.00 in payment of basic filing fee and recordation fee; and
38. Post card in acknowledgment of receipt of all transmitted materials.

Please date-stamp the enclosed post card and return to the undersigned in acknowledgment of receipt of all transmitted materials.

Respectfully submitted,

  
James Christopher Schroeder  
Reg. No. 48,686

JCS/taa/khg  
February 27, 2004  
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